Functional Equivalence – Proposed Regulations for the FCC

FCC Regulations for the Provision of Telecommunications Relay Services (TRS), Title IV of the Americans with Disabilities Act (ADA), Pub. L. No. 101-336 (47 C.F.R. § 64.601 - 64.605)

Overview: Title IV of the Americans with Disabilities Act requires "functional equivalence" in matching what is experienced by voice telephone users, but this term has never been clearly defined in the FCC TRS regulations. The scope of "functional equivalence" is limited in the current regulations to references such as: carrier of choice, call blockage, redundancy features, and rate paid for long distance calls. The Coalition recognizes these inclusions come directly from Title IV legislation and Congressional hearings, but we believe more is needed and that a much broader definition is justified, based on legislative intent.

Functional equivalence to both parties involved in the call is not grounded in and defined by redundancy features and the probability of a busy response, although these do have their place in the overall definition of functional equivalence.

Rather, functional equivalence applies as much to the hearing person in the relayed conversation as it does to those who cannot hear or speak intelligibly. Some elements of a voice-to-voice telephone call by individuals who do not need TRS for effective telecommunications are routine to any conversation:

- reaching and responding to a familiar voice or a stranger's voiced spoken words
- recognizing the difference between laughter, chuckles, and an explosive "HA!"
- evocation of a full range of human perceptions and emotions, from subtle to heavy, and the sense of anger, sadness, love, warmth, boredom, trust, confidence, fear, etc.
- emphasis placed on particular words
- interruptions and pauses

- sarcasm as a form of humor or insult
- intimacy and bonding

TRS regulations must not artificially suppress or impair development of TRS in a changing, dynamic telecommunications landscape, an assertion made by the FCC in 64.604(b)(5) "No regulation set forth in this subpart is intended to discourage or impair the development of improved technology that fosters the availability of telecommunications to persons with disabilities..."

The ability to provide these elements of a telephone conversation in the most current technology available is a promise unfulfilled. When the initial TRS standards were developed, technology was quite primitive compared to that available today. The TRS standards, rather than being minimum, have often become the rule. By setting minimum standards that do not change as technology advances, TRS becomes less and less "functionally equivalent." The proliferation of cellular telephones, use of faster communication protocols and high-speed data lines, and emergence of Internet telephony have all changed the telecommunications landscape since the first regulations were written.

In addition, current standards for spelling and typing accuracy and speed are woefully inadequate for the needs of deaf, hard of hearing and speech impaired professionals who use TRS. Requiring minimal competencies, coupled with a low pay rate for many CAs providing TRS, has made a sorry state of affairs.

Some Regulatory Recommendations for Improving TRS

(1) 47 CFR § 64.601 – Functional Equivalence Definitions - Current language:

(7) *Telecommunications relay services (TRS).* Telephone transmission services that provide the ability for an individual who has a hearing or speech disability to engage in communication by wire or radio with a hearing individual in a manner that is functionally equivalent to the ability of an individual who does not have a hearing or speech disability to communicate using voice communication services by wire or radio. Such term includes services that enable two-way communication between an individual who uses a text telephone or other non-voice terminal device and an individual who does not use such a device. TRS supersedes the terms "dual party relay system," "message relay services, "and "TDD Relay."

Proposed language:

Performance in a TRS call of substantially the same function to achieve the same result as that in a voice-to-voice telephone call by individuals who do not need TRS for effective telecommunications. Functionally equivalent communications must ensure efficient telephone calls that include equal costs to consumers, call blockage no different than that experienced by voice-to-voice non-TRS callers, allowing choice of carriers for all types of toll calls, and real-time communications in transmission and reception of text and speech, using advanced and efficient technology, as it becomes technically feasible.

Rationale: Since the inception of TRS, there has been no clear definition and understanding of what a functionally equivalent TRS conversation represents. Comments by TRS users clearly express concern that the current regulations as written have not assured functional equivalence. In addition, the statement on functional equivalence in the TRS definition is not cross referenced in the Title IV minimum standards Section 64.604 in regards to such measures as quality of the call content and call flow efficiency. The term 'functionally equivalent' in the context of this Section requires that a TRS-to-voice or a voice-to-TRS telephone conversation have the same outcome or results as a voice-to-voice non-TRS telephone conversation.

That Congress expected such a definition of functional equivalence is clearly established:

"The committee intends that Section 225 better serve to incorporate the hearing-and speech-disabled communities into the telecommunications mainstream by requiring that telephone services be provided to hearing and/or speech impaired individuals in a manner that is functionally equivalent to telephone services offered by those who do not have these impairments. This requirement will serve to bridge the gap between the communications impaired telephone and the community at large. To participate actively in society, one must have the ability to call friends, family, business, and employers."

(Report from the Senate Committee on Labor and Human Resources, Report 101-116, August 30, 1989, p.78.)

"Telecommunications relay services are to be governed by standards that ensure that telephone service for hearing- and speech-disabled individuals is functionally equivalent to voice services offered to hearing individuals. In determining factors necessary to establish functional equivalency, the FCC should include, for example, the requirement that telecommunications relay

services transmit messages between TDD and voice callers in real time as well as requirement that blockage rates for telecommunications relay services be no greater than standard industry blockage rates for voice telephone services. Other factors that should be included are the opportunity for telecommunications relay service users to choose an interstate carrier whenever possible. The FCC should enumerate other such measurable standards that ensure that hearing and non-hearing individuals have equivalent access to the Nation's telephone networks."

(Report from the Senate Committee on Labor and Human Resources, Report 101-116, August 30, 1989, p.81.)

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2) Mandatory Minimum Standards

47 C.F.R. § 64.604 - Mandatory minimum standards- Current language:

(a) *Operational standards.*

(1) *Communications assistants (CA).* TRS providers are responsible for requiring that CAs be sufficiently trained to effectively meet the specialized communications needs of individuals with hearing and speech disabilities; and that CAs have competent skills in typing, grammar, spelling, interpretation of typewritten ASL, and familiarity with hearing and speech disability cultures, languages and etiquette.

Proposed language:

Insert 'functionally equivalent' reference in relation to real-time, efficient and effective communications and incorporate language that will not impede the use of technical improvements that have and will become available:

(1) *Communications assistants (CA).* TRS providers are responsible for requiring that CAs be sufficiently trained and skilled to facilitate telephone conversations for TRS users that are functionally equivalent to voice-to-voice non-TRS telephone conversations. TRS providers are responsible for requiring that CAs effectively meet the specialized communication needs of individuals with hearing and speech disabilities, and that CAs have competent skills in typing, grammar, spelling, interpretation of ASL, and familiarity with the diverse segments of the deaf, hard-of-hearing, late-deafened, deaf-blind and

speech-disabled populations, and etiquette for communicating effectively and appropriately with each of them. CAs should be able to transmit via typing or other technological means (e.g., speech to text, enhanced protocols, computer-assisted real time transmission, etc.) in order to maximize efficiency of a TRS call."

Rationale: Currently, the TRS regulations do not cross-reference the mention of functional equivalence in the definition section. Obviously, the success or failure of functional equivalence relies on the proficiencies of the CA and the supporting technologies and procedures to handle the conversational flow effectively and efficiently. Thus the operations standards (64.604(a)) need to be revised to incorporate at minimum the phrase from the definitions section.

TRS at its current level of performance is not assisting those with hearing and speech disabilities to rely on TRS for professional and work-related conversations with confidence. Employers ask employees not to use TRS due to the inadequacy and inefficiency of the service.

Congressional intent is shown clearly in this excerpt:

Mr. Hoyer: "...the success or failure of relay services will depend to a great extent on the competence of the operators who will act as translators for those using the system. Does the gentleman anticipate that the FCC's regulations will require that operators employed by the common carriers be trained to respond *effectively (*emphasis added) to the special communication needs of hearing and speech-disabled users?"

Mr. Thomas Luken: "The gentleman is correct. The committee expects regulations will require the appropriate training for relay operators, including typing, grammar, spelling, and other training necessary to *ensure* (emphasis added) that operators contribute to the success of the service."

(Congressional Rec. (H2635), May 22, 1990.)

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3) Speed of answer

Current language:

(2) *Speed of answer.* TRS shall include adequate staffing to provide callers with efficient access under projected calling volumes, so that the probability of a busy response shall be functionally equivalent to what a voice caller would experience to reach a party through the voice telephone network. TRS shall,

except during network failure, answer 85% of all calls within 10 seconds and no more than 30 seconds shall elapse between receipt of dialing information and the dialing of the requested number.

[Note: The FCC's proposal for definition of speed of answer will help clear up the differences in the interpretation of the current regulations.]

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4) Equal access to interexchange carriers/Multivendoring

Current language:

(3) *Equal access to interexchange carriers.* TRS users shall have access to their chosen interexchange carrier through the TRS, and to all other operator services, to the same extent that such access is provided to voice users.

[Note: The Commission noted this year that equal access to chosen interexchange carriers is not happening universally. TRS users are still not able to use the IXC of their choice in the same manner as any telephone caller who normally designates an IXC once and subsequently, all calls are handled by the presubscribed interexchange carrier automatically unless specifically requested otherwise by the caller. Also, see discussion on rates of interstate calls below.]

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5) Call quality (Real time)

Current language:

(4) *TRS facilities.* TRS shall operate every day, 24 hours a day. TRS shall have redundancy features *functionally equivalent* to the equipment in normal central offices, including uninterruptible power for emergency use. TRS shall transmit conversations between TT and voice callers in real time. Adequate network facilities shall be used in conjunction with TRS so that under projected calling volume the probability of a busy response due to loop trunk congestion shall be functionally equivalent to what a voice caller would experience in attempting to reach a party through the voice telephone network.

[Note: Mention of TRS's ability to transmit conversations between TT[Y] and voice callers in real time coincides with the Congressional intent shown above in the excerpt from the *Congressional Record* requiring real time

communications but does not go far enough. This mention only implies TRS will not serve as a message service.]

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6) Technology Advancements

Current language:

(5) *Technology.* No regulation set forth in this subpart is intended to discourage or impair the development of improved technology that fosters the availability of telecommunications to person with disabilities. VCO and HCO technology are required to be standard features of TRS.

Proposed language:

(5) *Technology.* These regulations are intended to ascertain and encourage the development and implementation of improved technology that focuses on speed of transmission of conversations by whatever means to enable the relay service to move the conversations in real-time and thus enable persons with disabilities to conduct telephone conversations that are functionally equivalent to conversations between individuals who do not need TRS for effective telecommunications. The means to achieve this include but are not limited to VCO, HCO, two-line VCO, VTT, Speech to Speech, Video Relay, call release, caller ID capabilities, and enhanced communication protocols.

Rationale:

Congressional intent and the text of the ADA support this language:

(2) Technology. The Commission shall ensure that regulations prescribed to implement this section encourage, consistent with section 7(a) of this Act, the use of existing technology and do not discourage or impair the development of improved technology.

(ADA Title IV Quote: Development of Technology section)

"Although the Committee notes that relay systems represent the current (1989) state-of-the art, this legislation is not intended to discourage innovation regarding telecommunications services to individuals with hearing and speech impairments. The hearing- and speech-disabled communities should be allowed to benefit from advancing technology. As such, the provisions of this section do not seek to entrench current technology but rather to allow for new, more advanced and more efficient technology."

(Report from the Senate Committee on Labor and Human Resources, Report 101-116, August 30, 1989, p.78.)

The current 'technology' section of the FCC regulations read, as written do not provide 'encouragement' as called for in the *Congressional Record* to move toward viable, technically feasible improvements in TRS technology. The regulation only implies that there is no intention to 'discourage or impair' technological improvements, and falls short of 'encouraging more advanced and efficient technology' as well as providing little or no incentive to implement such technology.

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7) Enforcement

Current language:

(c) *Functional standards*

(1) *Enforcement.* Subject to § 64.603, the Commission shall resolve any complaint alleging a violation of this section within 180 days after the complaint is filed.

[Note: Generally, the Commission has not taken this action. A more active role in enforcement of TRS regulations is needed.]

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8) Outreach and Education

Current language:

(2) *Public Access to Information.* Carriers, through publication in their directories, periodic billing inserts, placement of TRS instructions in telephone directories, through directory assistance services, and incorporation of TT numbers in telephone directories, shall assure that callers in their service areas are aware of the availability and use of TRS.

Proposed language:

(2) *Public Access to Information.* Carriers shall perform substantial outreach and education activities to promote and educate the general public, in both the private and public sectors, and both current and future TRS users on various aspects of TRS, including benefits offered by TRS and a variety of TRS service features that can be utilized. Throughout these outreach and education

activities, needs assessment and evaluation approaches are to be used at every opportunity possible. Outreach and education activities shall include but are not limited to: publication in directories, periodic billing inserts, placement of TRS instructions in telephone directories, TRS information being made available through directory assistance services, incorporation of TTY numbers in telephone directories, articles, fact sheets, informational brochures, advertisements, workshops, town hall meetings, and presentations at educational institutions, businesses, and community service centers, etc. These efforts are to be coordinated with civic and government contacts, the business communities, and national, state, and local organizations/special interest groups in deafness, hearing loss, deaf-blindness and speech disabilities.

[Note: The current minimum standard on providing access to information has not been effective since its adoption by the FCC. The Coalition has repeatedly heard from citizens who are not aware of relay services and the many features offered. TRS providers and their contracting entities, the state relay administrators need clear, well-defined regulatory language to understand the FCC's expectations that there be extensive ongoing campaigns throughout the nation to promote and educate America's general population about TRS as a vital telecommunications service.]

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9) Rates

Current language:

(2) *Rates.* TRS users shall pay rates no greater than the rates paid for functionally equivalent voice communication services with respect to such factors as the duration of the call, the time of day, and the distance from the point of origination to the point of termination.

[Note: Many TRS users generally pay interstate calling rates greater than those who rely only on voice communications. The current system for allowing carrier of choice is too cumbersome and relies heavily on the TRS user stating an expressed wish for a certain carrier on each and every call, or the need to implement a customer profile which is not always feasible in office settings with PBX/multi-line, multi-TRS users. In addition, a consumer request for choice of interstate carrier alone does not guarantee the rate negotiated with a provider on a home or office line. Calling card calls made through TRS (without additional operator assistance requested

by the caller) should be made at the same rate as direct dial calling card calls.]

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10) Cost Recovery

Current language:

(4) *Jurisdictional separation of costs*

(ii) *Cost recovery*. Costs caused by interstate TRS shall be recovered from all subscribers for every interstate service, utilizing a shared-funding cost recovery mechanism. Costs caused by intrastate TRS shall be recovered from the intrastate jurisdiction. In a state that has a certified program under section 64.605, the state agency providing TRS shall, through the state's regulatory agency, permit a common carrier to recover costs incurred in providing TRS by a method consistent with the requirements of this section.

[Note: Cost recovery mechanisms should be set up to allow for cost recovery of FCC approved 'improved services' that allow for TRS consumers currently underserved by TRS to benefit via implementation of new technological solutions.]

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11) Complaints

Current language:

(5) *Complaints*.

(ii) *Jurisdiction of Commission.* After referring a complaint to a state under paragraph (c)(5)(i) of this section, or if a complaint is filed directly with a state, the Commission shall exercise jurisdiction over such complaint only if:

(A) Final action under such state program has not been taken within:

(1) 180 days after the complaint is filed with such state; or

(2) A shorter period as prescribed by the regulations of such state; or

(B) The Commission determines that such state program is no longer qualified for certification under § 64.605.

[Note: The Commission has not exercised its enforcement authority fully with TRS, and needs to do so. Consumers also need more information as to how to file a TRS complaint with the FCC. The Coalition has serious reservations with the FCC not becoming involved within the 180-day time frame. We stand by our recent NPRM individual comments calling for a monitoring process in which the FCC receives formal notification immediately on complaints that were filed in writing with the state in question and hope the FCC's new Enforcement Bureau will rectify this shortcoming.]

National TRS Standards, Assessment, and Enforcement Council

Rationale:
In 1998 approximately 202 million minutes of telecommunications relay services (TRS) were provided at a cost of $228 million. Although the FCC has a role in establishing minimum standards for the TRS industry, it currently is not in a position to ensure compliance and provide support to states. Consequently, quality of services varies greatly from one state to another.

In at least two states, protracted consumer-led litigation over serious lack of TRS quality resulted in judgments against vendors, but was not resolved until after many months of damage to consumers' relationships with employers and families. It also had an adverse effect on their ability to function independently as they remained "trapped" in depending on the state's one vendor, with no alternative to turn to for improved quality of TRS. Meanwhile, these states remained "certified" by the FCC.

Although the FCC's current TRS regulations state explicitly that technical improvements shall not be impeded, there is also no mechanism whereby efficiencies, technical improvements and functionally equivalent standards can be incorporated in TRS in a timely way without going through costly and prolonged Notice and Order proceedings.

The Federal Communications Commission needs full-time office with support from a national TRS administrative council to advise on setting standards, assess TRS capabilities and technology, assist with enforcement, support state compliance, and promote TRS services that are functionally equivalent to those of non-TRS users communicating by telephone. The results will contribute to industry

growth and accelerate technical improvements.

States, too, would benefit by timely information about new technology and procedures and knowledge of how to incorporate them in a timely manner, and an increased understanding of how to respond to upgraded certification standards to enhance their TRS operations. A coordinated approach to collaborate with states in resolving common complaints would be a regular practice of this Council. Ideas for new forms of outreach can be proposed and acted on, and the public at large will know and understand more about availability and existence of relay services. This Council would be located within the Enforcement Bureau to ensure that compliance and enforcement activities are taking place that support certification standards for TRS. This enables the FCC to effectively meet its statutory responsibilities to address the TRS provisions of the Americans with Disabilities Act of 1990.

Finally, the proposed Council would collaborate with the FCC's Technological Advisory Council. It is requested that such a collaboration become part of the latter's focus group on telecommunications by persons with disabilities and that they work together to examine how emerging and converging technologies can be combined into an evolving model TRS that is functionally equivalent and cost-effective.

There are precedents for this approach. Within the FCC, the North American Numbering Council advises the FCC, making recommendations reached through industry consensus, resolving disputes, and identifying technical solutions. This Council is supported by the FCC staff.

Codes designating the statutory responsibility to the FCC:
P.L. 101-336, 104 Stat. 366-369
47 USC § 225(a)(3); 47 USC § 225(b)(1); 47 USC § 225(c); 47 USC § 225(d)(2); 47 USC § 225(d)(3)
47 C.F.R. §64.601-64.605

The Coalition wishes to share excerpts in which the U.S. Congress has clearly expressed a mechanism to get formal input from

consumers on development, regulation-setting, and performance assessment for TRS.

> " Mr. Gunderson: ...The FCC's regulations must set forth standards that ensure that relay services provide telephone services for TDD users which are functionally equivalent to voice telephone services. The FCC should consult and obtain advice from individuals who will be relying on relay systems. Toward this end, it is our intent that the FCC should establish an advisory committee to include deaf, hard of hearing and speech impaired individuals, which would provide formal input to the commission in the development of the regulation and the ongoing operations of the relay systems"
> *(Congressional Record (H2431) May 17, 1990)*
>
> "Mr. Thomas Luken. The FCC already issued several notices during the development of several interstate relay systems. Consumers and individuals have urged the FCC to create a Federal advisory committee to assist the Commission in setting up such a system. it is our intent that the FCC turn to such a committee, which could be made up of relay consumers, telephone companies, and other interested parties, to develop standards for functionally equivalents [sic] for both intrastate and interstate relay system."
> *(Congressional Record (H2635) May 22, 1990)*

Role and Functions of the National TRS Standards, Assessment, and Enforcement Council:

1. To collaborate with the FCC's Technological Advisory Council, especially its focus group on access to telecommunications by persons with disabilities, to evaluate and recommend with timelines to states the use of emerging and converging technologies and processes that would enhance the ability of people who are deaf, hard of hearing, late-deafened, deaf-blind, or speech-disabled to use the telephone in a way that is functionally equivalent to conversations of by those who do not need TRS for effective communication by telephone.

2. To establish TRS standards with a baseline tied to how people who do not need TRS for effective telecommunications use the telephone. Standards must reflect diversity in the TRS-using population and provide diverse procedures and communication methods so customers are able to choose and combine those that best provide the ability to carry on a telephone conversation that is functionally equivalent to conversations enjoyed between individuals who do not need TRS, does not stifle free expression for either party, and that allows each to project themselves in the same way they would if both need not use TRS.

3. To develop and administer standardized, objective assessment tools to measure comprehensive skills of Communications Assistants and VRI interpreters. These tools are to be patterned after well-established tools for sign language and oral interpreters and transliterators.

4. To report the results of such assessments to the FCC, and incorporate them in the certification process.

5. To recommend revoking certification when a state's TRS is shown to be non-compliant as a result of such assessment.

6. To redefine, monitor and determine options and levels for Communications Assistant requirements that meet the highest possible level of functional equivalence.

7. To review complaints and other input on TRS services that were filed with the FCC, or as part of the reports submitted to the FCC from the state TRS programs.

8. To review and propose initiatives for outreach and education activities to increase awareness and utilization of TRS and the interests and role of the Council, and to inform that different kinds of outreach and other activities are appropriate for different kinds of TRS users.

9. To promote research and development, and to examine existing

and/or new, emerging and converging technologies that can effectively support functionally equivalent use of TRS.

10. To advise the interstate TRS fund administrator on interstate TRS cost recovery matters.

11. Whenever appropriate, to ensure that functional equivalence is established and maintained adequately for each of the diverse TRS user constituencies in every state of the Union.

Membership of the Council:

The TRS Coalition proposes that the Council consist of eighteen representatives using TRS from the consumer constituency groups in deafness, hearing loss, and speech disability, five from state governments, two from the FCC's Technological Advisory Council, one from the FCC's Enforcement Bureau, one from the FCC's Consumer Information Bureau, and two from industry. The specifics are as follows:

1. Consumers: three representatives from each of the following consumer groups:
    a. The deaf community
    b. The late-deafened population
    c. The hard of hearing population
    d. The speech impaired population
    e. The deaf-blind population
    f. The hearing TRS user population

The Coalition recommends that the national organizations and special interest groups representing the above mentioned populations be actively solicited for nominations for the council membership. Candidates for the Council membership should have had extensive TRS experience.

2. Relay Administrators, Regulatory, and Industry:
    a. Two state relay administrators,

b. One equipment distribution program administrator.
c. Two representatives of state regulatory services.
d. Two representatives from the FCC's Technological Advisory Council's focus group on access to telecommunications by persons with disabilities.
e. One representative of the FCC's Enforcement Bureau.
f. One representative of the FCC's Consumer Information Bureau.
g. One sales/marketing administrator from TRS industry (preferably from a different company.)
h. One operations manager from TRS industry (preferably from a different company.)

Meetings of the Council:

The Coalition recommends that the Council meet every three months at alternate sites across the nation. All representatives except those from the FCC Enforcement Bureau and the FCC Consumer Information Bureau should have voting privileges with the Council. The representatives from the FCC's two bureaus should participate as ex-officio members. The consumer members would be reimbursed for travel expenses from the Interstate TRS Fund while industry and government cover these expenses for their representatives.

Administrative Office for the Council:

The TRS Coalition recommends that the Council be located within the FCC's new Enforcement Bureau and include a Director, Assistant Director, an administrative assistant, and two TRS specialists. This staff would carry out the roles and functions described above, coordinate logistics for the Council meetings, and assessment and compliance tasks in between the Council meetings. Full collaborative efforts would be conducted on such TRS issues between this office and the various Bureaus within the FCC's organizational structure.

Two Model Entities to justify establishment of National TRS Standards, Assessment & Enforcement Council and an administrative office within the FCC organizational structure:

North American Numbering Council (within the FCC)
Deaf & Disabled Telecommunication Program with its
Administrative Committee in California (under the state's
Public Utilities Commission)

Enclosures:

A) Fall Issue of the GA-SK Newsletter, TDI – "Relay 2000: Quality of Service", full text of Judy Viera's keynote speech at TDI Conference in Seattle, Washington, July 1999.
B) Rebecca Ladew's tentative written testimony on STS, to be delivered on February 1, 2000.
C) Dr. Bob Segalman's comments as summarized on STS, sent to Claude Stout on January 30, 2000.
D) STS Functional Equivalence statement in rough draft by Dr. Bob Segalman, sent to Claude Stout on January 25, 2000.

Note- This paper is not grammatically correct as it was used to program an argumentative device

STS FUNCTIONAL EQUIVALENT DEFINITION

Functionally Equivalent for S T S is defined, as someone with a speech disability, who can engage, in real time voice communication, to any one, with the assistance of a competent S T S communications assistant, in a manner functionally equal to communication between two abled bodied people.

C Aids will provide call set-up, voicing, and assistive services. All parties must be able, to hear each other, throughout the call. All parties must experience, efficient telephone calls, that include equal access, to all services available to the non-disabled public.

Examples of areas of equal access include: Number 1. rates of pay, for all types of calls. Number 2. call blockage. Number 3. choice of inter state carrier, for long distance calls. Number 4. real-time communications in transmission, and reception of voice, using advanced, and efficient technology, as it becomes technically feasible. Number 5. access to information services, internet tel e phony, emergency services, 900 numbers, voice mes saging, 3-way calling, long-distance, and international calling, and all other such services. Number 6. Access to all types of provider information, such as call volumes, cost, etc. With the burden of proof, for the necessity of classifying information, as pro prietary falling on the provider.

OUTREACH

Many potential S T S users, face different technological, psychological, and social barriers, to telephone use, than other consumers. For S T S to be functionally equivalent, all potential users must have access, to one on one outreach activities, which would reduce these three types of barriers, to using the telephone and S T S. A specialized, one-on-one outreach service, designed specifically to remove these barriers is prerequisite to functional equivalency. Such as that provided to potential S T S users of Minnesota.

COMMUNICATIONS ASSISTANTS

S T S functional equivalence must include highly skilled C Aids. If they're not, they can't provide functional equivalence S T S. C Aids must possess imagination, resourcefulness, and must have, higher than average language skills, in the language of the person using STS. There is a diverse level of language skills, among S T S users, just as there are among all human beings. Resourcefulness and creativity are ESSENTIAL, CRUCIAL, CRITICAL, because a good S T S. C A, is much more than, someone with good hearing. Perceiving language, is more important, than hearing acuity.

No C A , T T Y, or S T S, can be a good C A, if they have poor hearing, but not all C Aids with

superb hearing can be good S T S. C Aids. C Aids need skills, not the least, of which, are creativity, and resourcefulness, to work with users, who have higher-than-moderate articulation challenges. The best S T S. C Aids are those, who have the highest intelligence, above average vocabulary, patience, good hearing, imagination, determination, and resourcefulness. As such, they should be paid considerably more, than they are, and more than their T T Y counterparts. It's a completely different job requiring T T Y skills and much more. If they are not paid well, the vendors will not, be able to recruit, or retain, sufficiently-skilled, S T S. C Aids.

Presented by

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February 1, 2000
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Subj: **Fw: Revised Statement for the FCC**
Date: 1/30/2000 12:17:21 AM Pacific Standard Time
From: bob.segalman@worldnet.att.net (Bob Segalman)
To: TDIExDir@aol.com (Claude Stout)

Claude - FYI - Bob

—— Original Message ——
From: <bob.segalman@worldnet.att.net>
To: <rladew@clark.net>
Cc: <DSABOURI@fcc.gov>; <kkeller@chorus.net>
Sent: Friday, January 28, 2000 7:00 PM
Subject: Revised Statement for the FCC

> Rebecca - Here are my revised, signed comments. I'm
> hoping that you or Debra's staff can take care of the
> copying and duplication.
>
> Thanks, - Bob
>
> <PROCEEDING>98-67
> <DATE> 0/28/00
> <NAME> Bob Segalman, Ph.D.
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> <DOCUMENT-TYPE> Ex Parte
> <CONFIDENTIAL>
> <PHONE-NUMBER>
> <DESCRIPTION>
> <NOTIFY> Bob Segalman
> <TEXT>
>
> IN THE MATTER OF TELECOMMUNICATIONS RELAY SERVICES AND
> SPEECH-TO-SPEECH SERVICES FOR INDIVIDUALS WITH HEARING
> AND SPEECH DISABILITIES
>
> CC Docket Number 98-67
>
> For presentation to the FCC:
>
> I am writing this as a Speech-to-Speech (STS) user.
> What follows is my perception of the views of STS users.
> Many consumers and potential STS consumers have not been
> strong advocates at the FCC because of a variety of
> barriers.
>
> The nature of the communication barrier makes people
> with speech disabilities (PSDs) a disparate and non-
> coalesced population. To date, PSDs have not begun to

> lobby and advocate for themselves or for STS. They will
> be able to advocate as their ability to communicate with
> one another, partly through STS, improves. STS offers a
> simple, easily accessible means of communication - the
> telephone in their home. This lack of personal lobbying
> by the consumers themselves is not a lack of interest.
>
> Users agree with the FCC that STS should be available
> nationally. STS appears intended to be required by Title
> IV of the ADA. Users support the Federal
> Communications Commission's tentative conclusion that
> STS be required nationally; cost should not
> prevent establishing a national service. STS does not
> need to be
> an expensive service. California's 1997 cost for
> Speech-to-Speech plus outreach was under $1m although
> costs have risen somewhat since then.
>
> The FCC's tentative conclusion that interstate STS costs
> should be reimbursed from the interstate TRS Fund is
> sound. Reimbursement
> helps fulfill the statutory duty not to discourage the
> implementation
> of improved TRS. Without NECA reimbursement, states may
> discourage use, as one state does now because it doesn't
> receive NECA reimbursement for out-of-state STS calls.
>
> STS should be as functionally equivalent as possible to
> telephone use by the general population. STS should be
> comparable to TTY relay on service quality including
> speed of answer, line quality, and other technical
> issues. Statistical reporting of call volume is
> especially important as there is no other way to
> measure the effectiveness of outreach.
>
> Consumers with speech disabilities have been unable to
> effectively correct service quality deficiencies. A
> quality of service mechanism must be in place. Quality
> of service might be verified through such vehicles as a
> consumer satisfaction telephone survey of users who
> release their names to outreach staff. There MUST be
> the means to report complaints AND AN ENFORCMENT AGENCY
> CHARGED TO REDRESS/CORRECT quality problems. Such
> enforcement is doubly important in that PSD still lack
> a community of individuals linked together to lobby and
> advocate on its behalf as deaf community does, for
> example.
>
> Operator services, outreach, and other services specific
> to STS
> should reflect consumer responses to the NPRM. The FCC
> must require effective outreach for STS to be useful to
> the majority of potential users. Many of the nine
> states that now provide STS are not providing effective
> outreach and thus have little usage.
>

> Similarly, the FCC should use consumer responses to the
> NPRM to structure the regulations to make STS most
> useful to consumers. The FCC should define STS
> operational differences from TTY, such as operator
> training and practices, confidentiality, outreach based
> on consumer responses to the NPRM. No vendor should be
> permitted to bid for STS service unless they have proved
> they have hardware and
> software to provide the service.
>
> Recent information reveals that many state contract
> administrators and relay providers will provide little
> or no outreach unless the FCC mandates STS outreach.
> While the deaf community have compelled many states to
> provide outreach, PSDs have only convinced state
> contract administrators to establish outreach which
> impacts the STS call volume in four of the nine states
> where STS is provided.
>
> I strongly recommend that the FCC require the
> establishment of effective STS outreach services in
> every state which will substantially raise call volume
> through removal of social, psychological, and
> technological barriers to use of STS. Without an FCC
> mandate for an outreach service which effectively meets
> the outreach needs of most potential users, STS will not
> be used by most such consumers. Minnesota has
> established such a program. Washington State is in the
> process of doing so.
>
> Given the specificity of the regulations necessary for
> STS to function well for consumers, the FCC should write
> separate STS regulations that make STS most useful to
> consumers. To simply address STS within the TRS
> regulations will lead to a make-shift service which will
> not effectively address consumer needs. Vendors and
> states must provide consistent rules for STS so that
> consumers don't experience "culture shock" as they move
> from state to state.
>
> Clearly, the time has come to mandate STS nationally.
>
> Bob Segalman
>
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———— Headers ————

Return-Path: <bob.segalman@worldnet.att.net>

Subj: **[TRS-C] Rough draft of STS functional equivalency**
Date: 1/25/00 4:56:10 PM Eastern Standard Time
From: bob.segalman@worldnet.att.net (Bob Segalman)
Sender: TRS-C-owner@48i.com
Reply-to: TRS-C@48i.com
To: TRS-C@48i.com, rladew@clark.net, kkeller@chorus.net (Katherine Keller), Winston7@pacbell.net (Winston Ching)
CC: tburns@dor.ca.gov (T Burns)

Here is the draft that Rebecca and Claude requested. Please revise as you see fit.

Functionally Equivalent is defined for STS such that someone with a speech disability can engage in real time voice communication with another person (with or without any disability) with the assistance of a competent STS communications assistant (CA) in a manner functionally equal to communication between two people who are able-bodied. C.As will provide call set-up, voicing, and assistive services. All parties must be able to hear each other throughout the call. All parties must experience efficient telephone calls that include equal access to all services available to the non-disabled public.

Examples of areas of equal access include: 1) rates of pay for all types of calls, 2) call blockage, 3) choice of interstate carrier for long distance calls, 4) real-time communications in transmission and reception of voice, using advanced and efficient technology, as it becomes technically feasible, 5) access to information services, internet telephony, emergency services, 900 numbers, voice messaging, 3-way calling, long-distance and international calling and all other such services, 6) Access to all types of provider information such as call volumes, cost, etc (with the burden of proof for the necessity of classifying information as proprietary falling on the provider).

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From: "Bob Segalman" <bob.segalman@worldnet.att.net>
To: <TRS-C@48i.com>, <rladew@clark.net>,
"Katherine Keller" <kkeller@chorus.net>,
"Winston Ching" <Winston7@pacbell.net>
Cc: "T Burns" <tburns@dor.ca.gov>
References: <4a.bcbd45.25be6204@aol.com>
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GA-SK NEWSLETTER

Promoting Equal Access in Telecommunications & Media for People who are Deaf, Hard of Hearing, Late Deafened & Deaf-Blind

Volume 30 - Number 3 **1999**

Opening New Frontiers in the Pacific Northwest

Everytime, Everywhere, Everyone: Expanding Telecommunications Access into the Next Millennium

Highlights of TDI's Conference in Seattle. By James House with excerpts from Cheryl Heppner's - NVRC News

•FCC Chairman Kennard Defines Vision for TDI Conference
•Microsoft Executive says "Engineers Need to 'Get It'!"
•New Section 255 Rules Mandate Accessibility in Telecommunications
•Consumers and Industry Exchange Notes on Telecommunications Access
•Judy Viera Raises Thought Provoking Points for Relay 2000
•TTY Pioneer, Marsters Shares His Experience With New Technology
•TDI Honors Four Individuals for Making Telecommunications Accessible
•TDI Board of Directors Welcome Three New Members, Elects New Officers

CONTINUED ON PAGE 8

RELAY 2000: Quality of Service

By Judith Viera

I want to thank TDI for the invitation to speak on relay service. TDI has been a strong and active partner in addressing such issues and today brings together all the key players in the same room. I hope we can leave here with a shared vision of what TRS can become and a shared determination to turn that vision into reality.

As a side note, I will occasionally mention the name of a business or proprietary technology. This is not necessarily an endorsement but an example of the kinds of resources out there that can be readily

CONTINUED ON PAGE 18

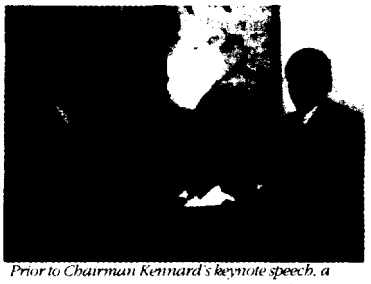
"Defining Vision"

William E. Kennard, Chairman, Federal Communications Commission, before the Telecommunications for the Deaf, Inc. Convention Seattle, WA. July 15, 1999

Thank you, Claude, for that generous introduction.

You know, Claude has been a tireless advocate on behalf of the disability community for his entire professional career.

And I want you all to know that I feel very fortunate to be able to draw on his experience. Claude is a constant help to the FCC and a trusted ally. He is serving you and all of us well. Congratulations, Claude, on another terrific TDI conference.



Prior to Chairman Kennard's keynote speech, a breakfast was held in his honor. From left: Dr. Roy Miller, TDI Board President; Claude Stout, TDI Executive Director; Pam Holmes, TDI Board Member-At-Large and William E. Kennard

I also want to thank Roy Miller and all of you at TDI for inviting me to your convention. I not only get to see, at one time, friends like Pam Holmes, Judy Harkins, and other TDI board members, but I get a chance to make a pilgrimage to Seattle — the place that has perfected a product that is indispensable to my job and the functioning of the FCC, indeed, to our whole economy. No, Sam, it's not Windows; it's coffee.

I was just in Europe at a conference, and there I heard a wonderful story about the construction of one of the great buildings of that continent: St. Paul's Cathedral in London.

One day while it was being built, an inspector from the King went to the site. He approached one of the workers and asked, "What are you doing?"

"I'm cutting stone," he replied.

Then he asked another worker, "What are you doing?"

"I'm making 5 shillings, 2 pence a day," he said.

CONTINUED ON PAGE 6

Do We Really Need International TDD Telephone Compatibility When We Have the Internet?

By Andrea J. Saks
Advisor to the US State Department & TDI's representative to the International Telecommunications Union

Andrea J. Saks

Most people reading GASK are familiar with the Internet and have been using email as the main long distance communication system instead of the telephone for a long time. The Internet has changed our future and opened job possibilities more far reaching than the telephone and the relay service. However, in this two-part article, I am going to say YES to the question in the title.

In this article, I will explain what has happened so far, and what we have need to do to make changes happen. In the next issue, I will share some information about some changes in the standards for us in the near future. The next International

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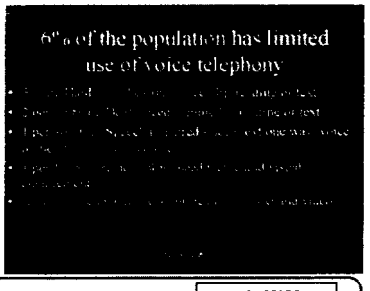

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RELAY 2000 - CONTINUED FROM PAGE 1

applied to relay services.

Let me show you a couple of figures: These are NECAs projected number of relayed conversation minutes nationwide and the projected costs:
•202,894,967 total minutes nationwide for one year ending 3/31/00;
•$228,116,946 total cost.

Sure, we are talking about a lot of minutes and a lot of money, but we are also talking about a lot of telephone conversations, about how the quality of those conversations affect our personal relationships, our ability to perform effectively on the job and aspire to upward mobility, our ability to function as independent, contributing members of society. All those minutes cannot be simply reduced, as they so often are to "an operator typing or reading text."

Ten years ago I made one of my many trips from California to northern New Mexico, choosing to go by train for a change. Among the friends I visited in Santa Fe was Becky Aranda who was just about to start a relay service out of an independent living center there. At the time, California was several months into its first statewide relay service under AT&T. Just before I left Santa Fe; Becky asked what I thought were the key elements for planning such a service. So on the train back to California, I used a legal pad and wrote out several dozen questions to ask, the answers to which could shape a statewide service... such questions as:
•Should the relay operator be identified by name or number or neither?
•Should the consumer be able to request a specific gender?
•How fast should a relay operator be able to type at the point of hire?
•And so forth. This was an effort to identify and address the many components that go into relay service.

Most of the answers also found their way into FCC regulations governing TRS. Unfortunately, the nature and quality of relay service around the country has changed very little in the ensuing ten years, so it is time to ask new questions!

As a backdrop on our discussion today, Id like to draw from Ray Kurzweils new book, The Age of Spiritual Machines: When Computers Exceed Human Intelligence. One of the points he stresses is the accelerated rate of development:
•He points out that the growth in technology during the first two decades of the 20th century matched the entire 19th century.
•Similarly, there will be far greater transformations in the first two decades of the 21st century than we saw in the entire 20th century.
•He cites some examples of accelerated growth:
•Computers doubled in speed every three years at the beginning of the 20th century
•every two years in the 1950s and 1960s,
•and are now doubling in speed every 12 months.
•The World Wide Web didnt even exist just a few years ago!
•Computers are about one hundred million times more powerful for the same unit cost than they were a half century ago.

TRS Provider panelists Stephanie Buell and Linda Nelson confer with Judith Viera on her plenary speech.

If the automobile industry had made as much progress in the past 50 years, a car today would cost a hundredth of a cent and go faster than the speed of light!
Kurzweil also has a knack for putting the reader in touch with ones own mortality because he describes the technology that is available today and what will become available every ten years hereafteras you read, you cant help but figure how old you will be at every ten year point he refers to! For example, by the year 2009, telephones will be able to automatically, via speech, translate a conversation between someone who only speaks Japanese and someone who speaks only French.

Believe it or not, by the year 2019, he believes most interaction between people and computers will be through gestures and two-way natural-language spoken communication.

So what does this all have to do with relay?

While we lock ourselves in with 10-year old language and technology, technology itself has moved fast forward.

I have six key elements that I want to stress today.
I. CHANGE THE LANGUAGE WE USE IN DISCUSSING TRS!
Listen to this: We have spent the last 10 years in our federal and state regulations, and in our relay contract language arguing over how many words per minute the CA should be able to type.

Why should I be forced to entrust my effectiveness - indeed my whole career - to the hands of a high school graduate who types 45 words a minute, can't spell, and is paid minimum wage?

We are forgetting that the language of the FCC regulations specifically refers to "real-time transmission." Instead of specifying a minimum typing speed, we should specify that the relay provider will offer to all its users, at home and at work, the ability to converse in real-time.

Use inclusive language that allows us to use CART, Turbo Code, and VRI. In fact, why should the CA be able to type at all???

We should be figuring out how we can greatly reduce or eliminate the need to type. When we look at the application of readily achievable, off-the-shelf speech-to-text and text-to-speech in TRS we are suddenly able to draw our communications assistants from a much larger pool of potential candidates and they will be able to function much longer without taking a break.

II. DEFINE "FUNCTIONAL EQUIVALENCE" AS IT APPLIES TO OUR USE OF RELAY SERVICE.
The FCC refers to "functional equivalence" but has yet to define what that language means. TRS is supposed to allow us to have the functional equivalence of an ordinary telephone so let's look at what it can do for people who can hear and speak. The ordinary telephone's functions include the ability to convey:

•Spoken words.
•The difference between laughter, chuckles, and ha!
•Express and be evocative of the full range of emotions from subtle to heavy:
•Love, fear, sadness, heartbreak, warmth, boredom, interest, trust, confidence, etc.
•Speaker's emphasis on particular words
•Interruptions
•Sarcasm as a form of humor or a form of hurt
•Intimacy
•Bonding
•The difference between a familiar voice and a stranger's voice
•Pauses that mean one thing in a direct conversation and quite another in a relayed conversation.

When was the last time you carried out a relayed conversation that could do all of

CONTINUED ON NEXT PAGE

Relay 2000 - Continued from page 18

these things? However it was conducted, it certainly did not have the functional equivalence as just defined!

III. CHANGE THE CONCEPTS AND WORDS WE USE IN CONSIDERING THE EQUIPMENT USED TO ACCESS RELAY SERVICE.

•TOTAL NUMBER OF WIRELESS SUBSCRIPTIONS: 134,856,837
•CELL PHONES 76,319,619
•PAGERS: 1-WAY & 2-WAY 58,537,218
•IN OCT. 1998: 45.5% Households used wireless

REASONS FOR USE OF WIRELESS COMMUNICATIONS
•45.3% Safety
•31.3% Business/while commuting
•20.6% Stay in touch with family, friends
•56% Originally purchased wireless for safety & emergency

We are already living with converging technology... cable, computer, the Internet, telephone, and video in ways that are far more functionally equivalent for those of us who depend on vision to replace what we cannot hear. Why then do we lock ourselves in with language that specifies Baudot and ASCII? How then can we make room for other communication systems such as ITP/IP?

Many states have locked themselves in with language that specifies the use of a TTY or a text-based device. We should take the FCC at its word and "ensure that its TRS regulations (and state regulations and our contracts with relay vendors) do not artificially suppress or impair development of TRS in a changing dynamic telecommunications landscape."

Shouldn't we be asking what kind of equipment is needed by us in our equipment distribution programs and by TRS to allow us to carry on a conversation that has the same functional equivalence as regular phones... that is able to do all these things? And then, shouldn't we make sure the language in our legislation, regulations, and contracts reflect this?

And don't tell me the states can't afford to update the technology and the systems. In California, the surcharge that pays for both the equipment distribution and relay service is only .18% on toll calls made within the state. Double that to .36% and I doubt anyone would notice except those of us who will see the resulting improvements.

Two weeks ago I had the opportunity to go to the NAD office and try out Sprint's Video Relay Interpreting (VRI) in conjunction with the Maryland Relay Service. I sat down, saw an interpreting CA and made a call to my office in California. The flow of the conversation felt so much more natural and less stilted. It was also much faster than if it had been text only. I flew here from the California Association of the Deaf convention at Stateline, Nevada, where Sprint also had a working demonstration of its Video Relay Service. What is really impressive is that in both cases, the interpreting CA was located in Austin, Texas. What an efficient use of interpreting time to centralize the service!

During this working demonstration I watched a fascinating VRI conversation between Joanne Jaurequi and her hard of hearing husband, Eddie. Some of you know Joanne and her rather flat, unemotional manner of signing and may also know how animated Eddie can be! Through the interpreter on video, Joanne in her unemotional way informed her husband she had played poker in the casino the night before, gotten a royal flush, and won $1,199. And in his usual exuberant way, Eddie expressed his huge WOW and "jumping-up-and-down-with-joy! I swear the full flavor of this wonderful exchange could not have been expressed via TRS in text only. It was so impressive how the interpreting CA could accurately portray Joanne's calm to Eddie, and his exuberance to her. The true, functional equivalence of a telephone conversation between two people who can hear and speak!

As another example of how other readily available technology can improve the quality of a relayed conversation I am reminded of how I often communicate with my colleagues at work when an interpreter is not available. Although everyone is learning sign language, their skills are not always adequate to engage in the sort of business discussions that take place every day. We all have our own desktops with NexTalk installed. Often two or more of us will network and type our conversation and the screen is split to show each party's comments simultaneously.

I also use NexTalk for my relay calls and Nxi is making an exciting announcement here at the TDI convention about the availability of their software for anyone interested in using their PC with TRS. Before long, our relay services will most certainly be internet-based and the technology is already here to transmit at the speed of speech. I trust the language in our laws and regulations will permit it!

Another area of telecommunications that has seen rapidly accelerating growth is the wireless industry. Do you realize the total number of wireless subscriptions in the U.S. is 134,856,837? I want to show you how this number breaks down between cell phones and 1-way and 2-way pagers.

It has long been possible to walk up to a total stranger, your doctor, or your daughter's mother-in-law (who also has a cellphone), dial up your TRS number and have a totally wireless relay of your conversation with each other.

This reminds me of the blurring in the distinction between video relay interpreting for the purpose of supporting a telephone conversation, and remote interpreting that is done for the purpose of providing access to face-to-face communication. Indeed, many of us already place phone calls through TRS rather than meet with someone in person where communication is difficult or impossible. It is not going to be possible to separate the two applications... nor should it be.

IV. MAKE SURE THAT 'FUNCTIONAL EQUIVALENCE' APPLIES AS MUCH TO THE HEARING PERSON IN THE RELAYED CONVERSATION AS IT DOES TO THOSE OF US WHO CANNOT HEAR OR SPEAK!
TRS is used by people who are culturally Deaf, deaf, hard of hearing, late deafened, deaf-blind, hearing, or speech impaired.

Which group is the largest?

Let's face it: every single one of those 202,894,967 minutes of relayed conversations involves a hearing person! And each text-user calls multiples of hearing people so all these hearing people are by far the largest population of relay users. Yet none of our relay regulations and contract language give any consideration to their needs and expectations!

Continued on Page 21

Relay 2000 - Continued from page 19

Ask just about any deaf professional if they could choose between an interpreter or a relay service to make a phone call, the answer will be an interpreter.

I don't know about you but I care more about the relay experience of the person I am conversing with than I care about my own. This is my neighbor, the headhunter who has my resume, my daughter's bridesmaid, my doctor, my lover, my nephew, the plumber I'm thinking of hiring, the driver of the other car that hit mine, a colleague at work. I care about what I am projecting about myself, the opinion these people are forming, perhaps for the first time, of me personally and/or all deaf people in general. So what do all these hearing people think of relay service and, by association, of deaf people?

Doug England, who represents hearing TRS users on California's TRS Advisory Committee, had this to say:
"...other than the general disdain most hearing people have for relay... there is the usual monotone and impersonal manner of most relay agents that makes the conversation extremely stilted, un-natural and mechanized."

"Many hearing people that use the relay for business see it as a chore they want to get off the phone as soon as possible. And because it is so impersonal, I think many hearing people dont express themselves the same way during relay as they would one-on-one. They withhold a level of intimacy because of that faceless third party listening in and the lack of spontaneity"

Stephanie Buell, now Wisconsin TRS Contract Administrator had this to say:
"Some hearing people are extremely frustrated with the long time lags in between them talking and getting my response verbalized by the CA. I wish we could figure out some way to make the calls more interactive."

Then there is this from a sales person who gets 15-20 TRS calls a month including from job applicants:
"I would view the potential of the applicant (calling via TRS) as someone who may be difficult to reach. If the operator is not understanding the ASL being typed on the other end, it would leave an impression on the one interviewing that this may not be an intelligent individual. This, of course, would be far from the truth. Some relay operators have even sounded frustrated trying to figure out what is being said by the TTY-user. I certainly would not feel comfortable using TRS for high level negotiations in a business environment."
It should be obvious by now that building functional equivalence and real-time transmission into the language of TRS-related legislation, regulations, and contracts with vendors will once and for all make relayed conversations an acceptable form of communication for all these hearing people.

In fact, I very much oppose spending money on outreach to the general population about relay service when for them the quality of the conversation is so poor and why lay a guilt trip on them for not wishing to use it any more than they have to? Do you blame them for hanging up on us saying they dont have time for this? Surely for the $228,116,946 we are spending this year on TRS we can do better?

V. TOO FEW DEAF AND HARD OF HEARING PEOPLE HAVE ACCESS TO APPROPRIATE EQUIPMENT AND RELAY SERVICE.
Let's look at figures from California's telecommunications equipment distribution program... keeping in mind that California has approximately 1/10 of the U.S. population.

This overhead shows the number of TTYs in use free of charge by people who are deaf which, as you can see, has remained pretty much the same over the last 10 years...exactly 19,888 as of December 31, 1998.

Would you believe this is less than 1/10 of the total deaf population in California? Did it occur to anyone that perhaps a TTY is not the most appropriate device for a deaf person?

You also will note the distribution of amplified telephones and handsets in California and can see the growth over the years. Despite this growth, after ten years, only 200,000 units have been distributed to a population estimated to be 1.4 million.

While we look at these figures we need to be aware of changing demographics for two reasons.

First, many of those who currently use amplified handsets have a progressive hearing loss, and the time will come when amplification alone will not be sufficient to access the telephone network. These people are already participating in the distribution program and are most likely to go back to the program and say, "I need something else now. " So the number of people who move into visual forms of technology will grow.

Secondly, those of you who attended the recent SHHH convention in New Orleans could not help but notice a significant change in the overall character of the attendees. I found less denial, much more openness about technology, much more tolerance for various communication choices, and more willingness to try such strategies as sign language. So the lines here between different segments of the deaf and hard of hearing population are becoming increasingly blurred and these people are, as a result, more willing to try equipment they did not want to be identified with previously.

As you can see, this very large population is going to make increasing demands on relay services, not only in their numbers but in the quality of the relayed conversations because they know exactly what "functional equivalence" means after many years of using the regular telephone.

VI. TRS USAGE HAS HIT A PLATEAU.
We used to refer to relay service as emerging technology and a growth industry but take a look at the usage rates over the last ten years in California. Not only has the technology stopped "emerging", but the usage rates have also hit a plateau. There was steady growth in call volume from 1989 to 1995, peaking at just under 8 million calls for two years, and then dropping after that.

I don't know of any business that would tolerate lack of growth! I believe it is directly related to the lack of improvements in the same period... at least improvements that can be seen and experienced by the two parties in the relayed conversation.

Today, we use TRS more as a last resort and prefer fax, email, and... when we can get them... an interpreter. Improve the quality of the service and growth will follow!

CONCLUSION
Look there are really fine people working in the relay industry, working as state administrators, and in the regulatory arena, and serving on advisory committees. There have been times when we have had adversarial relationships but that has to end. I'd like to leave you with the following from Thoreau:

"If you have built castles in the air, your work need not be lost, that is where they should be. Now put the foundations under them." **SK**